

Remarks

Claims 1-17 were pending in the application. Claims 1-8 and 15-17 were rejected. Claims 9-14 were previously withdrawn. No claims were merely objected to and no claims were allowed. By the foregoing amendment, claims 5 and 9-14 are canceled, claims 1 and 6 are amended, and claims 18-24 are added. No new matter is presented.

Claim Amendments

Claim 5 has been incorporated into claim 1. New claim 18 is supported by FIG. 1A and page 5, line 18. Claims 19 and 21 are supported by claim 2 and page 6, lines 7&8. Claim 20 is supported by page 6, lines 8-10. Claims 22-24 are supported by page 7, lines 13-21.

Interview Summary

Applicants appreciate the courtesy of a telephone interview December 4, 2007 between Examiner Ted Kim and undersigned attorney William Slate. The combination of Pidcock et al. and Halila was discussed. The undersigned submitted that the Office action references to FIG. 10 were unclear. The undersigned noted that FIGS. 9 and 7 appeared to match up more with the characterization in the Office action because the FIG. 7/9 rail 144 is circumferential and the FIG. 10 rail is longitudinal. The examiner was not able to resolve this but also noted an apparent inconsistency between FIGS. 11 and 8 [It appears to the undersigned FIG. 11 is not intended to represent the panel of FIG. 8 but an alternative whereas FIG. 9 is intended to represent the panel of FIG. 7.]

The undersigned attempted to address the asserted combination involving replacement of the pedestals 145 of Pidcock et al. with ribs such as those of Halila. First, the undersigned noted that FIG. 7 of Pidcock et al. shows the flow A as passing laterally around the pedestals. In order to pass laterally around ribs, the ribs would have to be other than circumferential (i.e., longitudinal or diagonal). In such a case, the specific recessing of claim 1 (3-10mm) would not be satisfied). The examiner hypothesized that flow over the tops of circumferential ribs might be appropriate.

The undersigned further noted that even with the circumferential ribs, the apertures 140 are aft of the ribs and would not satisfy the claim 5 positioning. The examiner asserted an

interpretation wherein element 144 was the identified rail and asserted that the claim did not preclude the presence of additional rails thereahead. The undersigned submitted that this would vitiate the claim 1 recessing of 3-10mm, essentially requiring the entire panel to be about 2 centimeters in length, much smaller than known combustor panels. The examiner hypothesized a microturbine using this construction. The undersigned disagreed that such would have the same combustor construction of a larger unit.

The undersigned also noted that the claim 2 identification of the rail as contacting the shell was not satisfied by either the ribs imported from Halila or the barrier member 144. The examiner suggested this claim be combined with claim 5 along with a request for continued examination, without committing to a finding of patentability. The undersigned indicated that if an RCE was filed, this would be maintained as a dependent claim with the incorporation of claim 5 into claim 1. No agreement was reached.

Claim Rejections-35 U.S.C. 103

Claims 1-4, 7, 8, 15, and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over DuBell et al. (US5758503) in view of Snyder (US2002/0116929). Applicants respectfully traverse the rejection.

The incorporation of claim 5 into claim 1 appears to render the rejection moot.

DuBell et al. discloses a forward wall 26 which was asserted as the present rail. A flange 48 projects ahead of the wall. Identically, however, "a trailing flange 50 extends out from the trailing wall 28." Col. 4, lines 31&32. Continuing: "The forward 48 and trailing 50 flanges have arcuate profiles which facilitate flow transition between adjacent liner segments 12, and therefore minimize disruptions in the film cooling of the liner segments 12." Thus, any optimization of DuBell et al. would be for that function and not for a function that DuBell et al. fails to suggest.

By contrast, the present specification discusses the location of holes 150 (further subdivided into holes 220 and 222). These are positioned so that their discharge impacts the panel surface 104 ahead of the rail 114 and flows forward wrapping around the leading edge 106 and then aftward between the surface and an adjacent portion 160 of the heat shield panel on the bulkhead. The holes 150 serve to initiate film cooling along the panel interior surface. Thus, optimization to the presently claimed parameters could only be substantiated if DuBell et al.

disclosed such a wraparound flow and associated functions. Instead, DuBell et al. appears to be directed solely toward providing a tight panel-to-panel transition for flow along their respective interior surfaces. Thus, it cannot be said that DuBell et al. optimization would yield the presently claimed parameters. It is further instructive and confirming that the Office action did not cite DuBell et al. as disclosing the holes 150 as recited in former claim 5.

Snyder was asserted merely for adopting DuBell et al. inboard and outboard. Although the inboard and outboard use of DuBell et al. is reasonable, the Snyder citation, if anything, teaches away from the claimed invention. DuBell et al. substantially predated Snyder. Snyder could have adopted the DuBell et al. configuration but did not. Thus, Snyder teaches away. Furthermore, any hypothetical combination of Snyder and DuBell et al. would be toward a panel-to-panel junction (e.g., if one of the Snyder panels 48 or 60 was subdivided into separate edge-to-edge panels). There is no suggestion to adopt DuBell et al. at a leading edge adjacent a bulkhead.

Clearly, as reflected in the present drawings, the exemplary embodiment involves a modification of the configuration shown in Snyder to recess the leading rail section. This is not suggested by Snyder or even by combinations of Snyder and DuBell et al. Similarly, Snyder teaches away from modifications involved in the rejections below.

Claim 1 identifies the leading panel situation. Claim 17 identifies the relationship between these panels and the bulkhead panels. Claim 16 identifies the asymmetry (e.g., an unrecessed trailing edge rail portion).

Claims 1-8, 15, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pidcock et al. (US6408628) in view of Halila (US5363643). Applicants respectfully traverse the rejection.

Pidcock et al. discloses a stepped combustor wall. Its barrier member 144 of FIG. 10 and effusion holes 140 (apparently of FIG. 7 which corresponds, instead, to FIG. 9, not 10) were asserted as the claim 5 rail and holes. Page 5, lines 3-5.

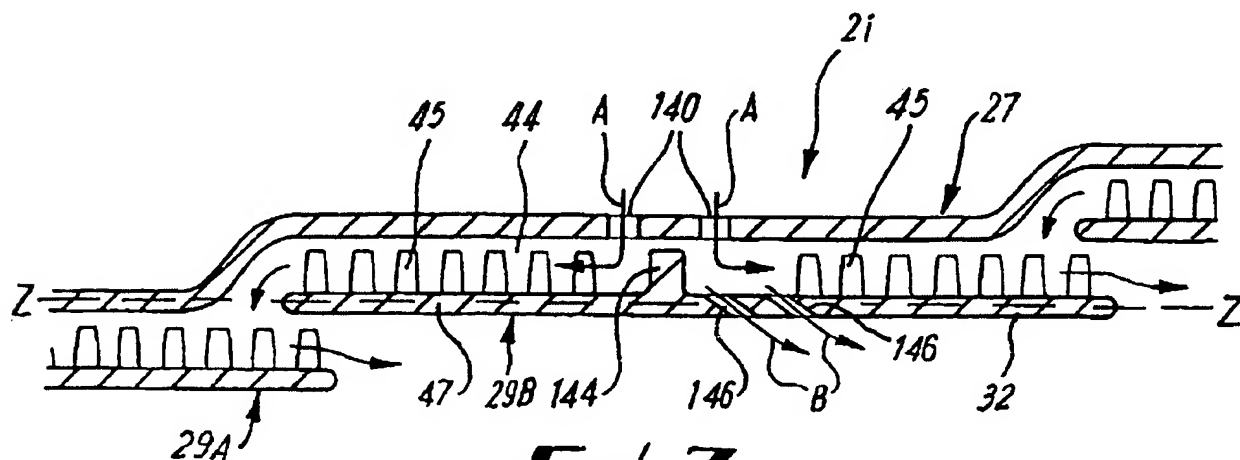


FIG. 7

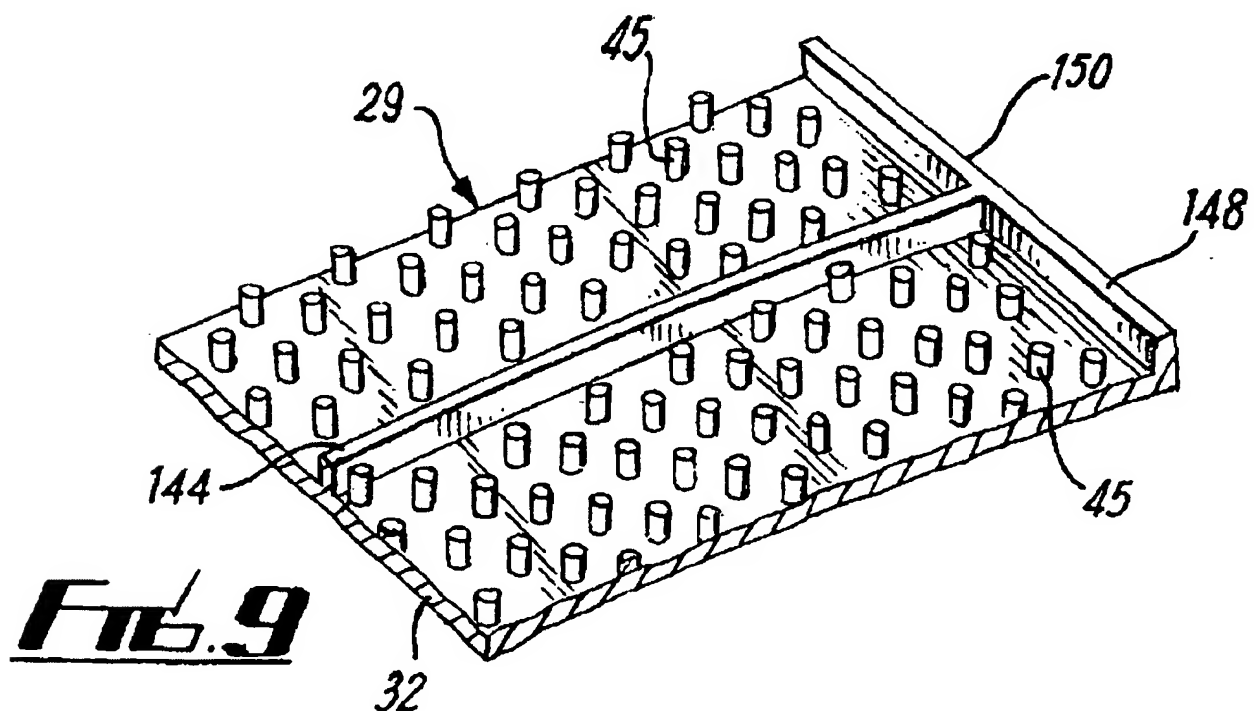
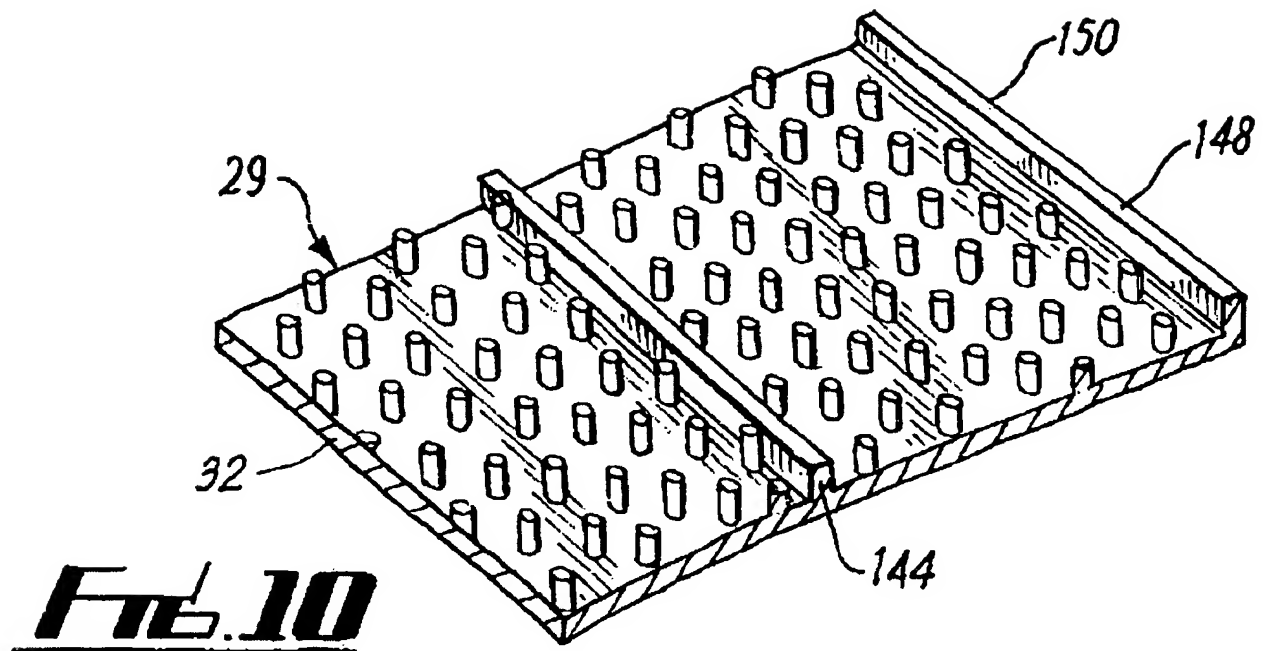
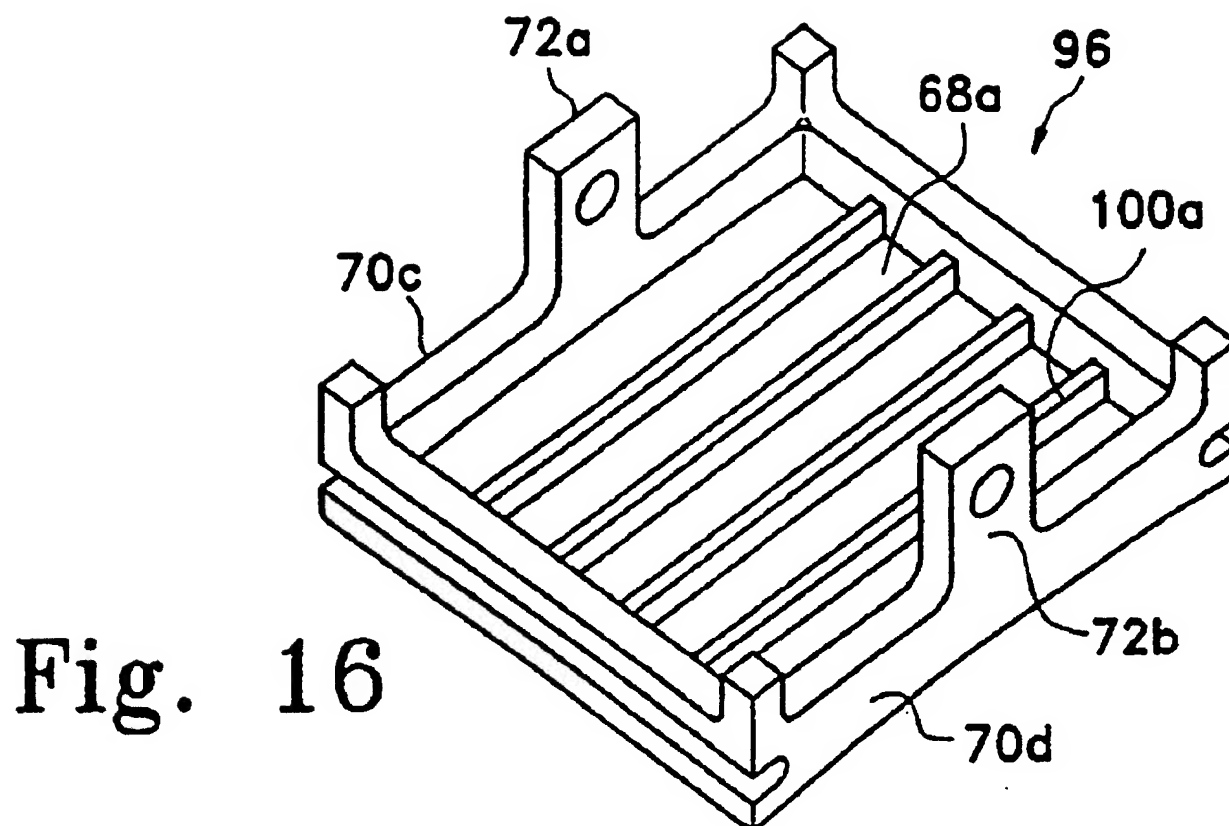


FIG. 9



Halila discloses another particular combustor construction. The Office action pointed to FIG. 16 elements 100a which appear to be internal rails. Page 5, third from last line.



It is not clear the exact nature of the proposed combination. However, it is clearly conclusory.

There is no support for the apparent assertion that the pedestals 45 of Pidcock et al. and ribs of Halila are equivalent. Clearly, they are different. The pedestals exclusively serve heat transfer purposes while the rails may first serve structural purposes. Col. 11, line 43. Thus, Pidcock et al. and the alleged Halila modification are not instructive beyond the stepped wall configuration of Pidcock et al. For example, they do not suggest use in a leading panel associated with the present bulkhead.

As noted above, Halila ribs 100a are internal ribs within a perimeter rail 70. What basis is there for so selective and adoption (e.g., without the perimeter rail).

This emphasizes that the exact nature of the combination has not sufficiently been articulated by the Office. It appears the Office intends to replace the pedestals 45 of Pidcock et al.

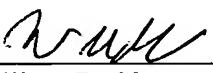
with elements 100a of Halila while preserving element 44 and not importing 70. Is this correct? What are the relevant dimensions? Wouldn't the hole 140 of Pidcock et al. then be behind the elements 100a? In this vein, as is clearly shown in FIGS. 7&8 of Pidcock et al., there is no reason to believe optimization would yield the claimed dimensions. FIGS. 7&8 clearly show a large distance effective to have many rows of intervening pedestals.

Claims 1-8 and 15-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pidcock et al. in view of Halila, and further in view of Snyder. Applicants respectfully traverse the rejection.

Snyder does not cure the insufficiencies of the basic Pidcock et al./Halila combination.

Accordingly, Applicants submit that claims 1-4, 6-8, and 15-24 are in condition for allowance. Please charge any fees or deficiency or credit any overpayment to our Deposit Account of record.

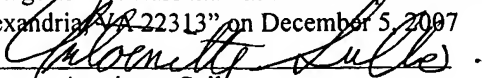
Respectfully submitted,

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